MONTHLY WEATHER REVIEW.

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The MONTHLY WEATHER REVIEW is based on data from about 3500 land stations and many ocean reports from vessels taking the international simultaneous observation at Greenwich noon.

Special acknowledgment is made of the data furnished by the kindness of cooperative observers, and by R. F. Stupart, Esq., Director of the Meteorological Service of the Dominion of Canada; Señor Manuel E. Pastrana, Director of the Central Meteorological and Magnetic Observatory of Mexico; Camilo A. Gonzales, Director-General of Mexican Telegraphs; Capt I. S. Kimball, General Superintendent of the United States Life-Saving Service; Commandant Francisco S. Chaves, Director of the Meteorological Service of the Azores, Ponta Delgada, St. Michaels, Azores; W. N. Shaw, Esq., Director Meteorological Office, London; H. H. Cousins, Chemist, in charge of the Jamaica Weather Office; Rev. L. Gangoiti, Director of the Meteorological Observatory of Belen College, Havana, Cuba.

As far as practicable the time of the seventy-fifth meridian is used in the text of the MONTHLY WEATHER REVIEW.

Barometric pressures, both at land stations and on ocean vessels, whether station pressures or sea-level pressures, are reduced, or assumed to be reduced, to standard gravity, as well as corrected for all instrumental peculiarities, so that they express pressure in the standard international system of measures, namely, by the height of an equivalent column of mercury at 32° Fahrenheit, under the standard force, i. e., apparent gravity at sea level and latitude 45°.

FORECASTS AND WARNINGS.

By Prof. E. B. GARRIOTT, in charge of Forecast Division.

AN UNSEASONABLE WARM PERIOD IN THE UNITED STATES.

The temperature of the third decade of March averaged 12° to 21° above the normal generally east of the Rocky Mountains. In the Eastern States this remarkable and probably unprecedented 10-day period of March heat was due to the passage of two well-marked warm waves that advanced from the Great Plains to the Atlantic coast. These warm waves had their origin in a heated area that set in over the Middle-western and Southwestern States from the 16th to the 18th, and continued in that region for about ten days, with maximum temperatures of 90° to 100° in Oklahoma and Kansas. The first offshoot from this heated area advanced over the Mississippi Valley on the 21st and reached the Atlantic coast on the 22d, attended at many points by the highest temperatures on record for March. At Washington, D. C., 90°, or higher, was reached on three days, the highest, 93°, being registered on the 23d. This was 10° above the highest March temperature previously recorded for Washington. The second warm wave of this decade advanced from the eastern Rocky Mountain slope to the Atlantic coast from the 24th to 29th, with temperatures at many points that exceeded those of any previous March. On the 29th the heated area in the Middle West and Southwest was dissipated by an area of high barometer from the Pacific. This high area was attended by a cold wave that carried the frost line to northern Florida by April 1.

The associated apparent causes of periods of unusual weather are found in the abnormal distribution of barometric pressure over and near the regions affected. In the case of the March warm period the barometer was continuously low or falling over the western half of the United States from the 18th to 28th. Attending the eastward advance of the warm wave on the 21st and 22d, pressure was low over the entire country except the extreme southeast. On the 24th the warm period in the Eastern States was temporarily broken by a high barometer area that moved from the Hudson Bay region over the Atlantic States from the 24th to 27th. In the meantime barometric pressure had remained low in the West. Following the southeast passage of the Hudson Bay high area southerly winds with rapidly rising temperature again set in over the eastern districts, and continued until broken by the cold wave of the 30th. A consideration of the greater areas of barometric pressure shows that during this warm period pressure was exceptionally high for the season over the interior of Asia, and correspondingly low over the north Pacific Ocean. The effect of continued low pressure over the northern Pacific is shown in the low pressures that continued over central and western portions of the American Continent, which were in turn responsible for the prevalence of warm southerly winds over the eastern half of the United States during the latter half of the month.

Aside from the warm period referred to, average winter temperatures prevailed over the eastern half of the country. In Maine and the Pacific States the month was colder than usual, and over the northern half of California the deficiency was 3° to 6°.

IN GENERAL.

No specially notable features were shown by European and central Asiatic reports. There were two interruptions of the high barometric pressure that prevails at this season over the interior of Asia, one in the first decade and the other at the close of the month. In each case there appeared to have been a slow eastward drift of low barometric pressure from west-central and northwestern Europe, and from the Iceland low area, where, at Seydisfjord, readings below 29.00 inches were recorded during brief periods in each decade. British Isles pressures were generally high, except from the 15th to 19th and at the close of the month, when disturbances of marked intensity crost that region. In the vicinity of the Azores the barometer was exceptionally high during the first half of the month, and readings did not fall below 30.00 inches until the 31st. Over the western Atlantic storms advanced from the northern coasts on the 2d to 4th, 6th, 20th, and 23d, the storm of the 20th being particularly severe on the New England and Canadian coasts. The passage from the continent of storms of moderate strength caused low barometric pressure at Bermuda on the 6th, 25th, and 26th. A feature of the closing days of March was a storm off the extreme southeast coasts of the United States. As this storm acquired its greatest intensity early in April, its description will appear in the MONTHLY WEATHER REVIEW for that month.

A number of disturbances of moderate energy crost the Great Lakes, one in the first and third decades and four in the second decade of the month. On the Pacific coast barometric pressure was generally low, more especially during the second and the first half of the third decades, the lowest reading, about 29.15 inches, being noted on the north Washington coast on the 23d.